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EXAMINER

CHEN, SHIH CHAO

ART UNIT PAPER NUMBER

2821

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/693,453

Applicant(s)

KITAMORI ET AL.

Examiner

Shih-Chao Chen

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-11 and 15 is/are rejected.
 7) ☒ Claim(s) 12-14 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 3/16/04.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. While "A vehicle-mounted transmission and reception apparatus" is the preamble of the claim 1, the claimed limitation "the sector antenna apparatus" which is previously recited in claim 1, does not constitute any further limitation. Therefore it is not treated on the merit.
2. Claims 2-14 are objected to because of the following informalities: "A sector antenna apparatus" should be changed to --The sector antenna apparatus--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Rao et al. (EP 1003241 A1).

Regarding claim 1, Rao et al. teaches in figures 1-15 a sector antenna apparatus comprising: a plurality of horn antennas [42] for radiating beams in different directions;

and an antenna changeover switch [47] for switching between the plurality of horn antennas, wherein at least a first horn antenna (i.e. central feed horn) of the plurality of horn antennas emits beam radiation in a high-angular-resolution direction of the different directions and has a large aperture providing a narrow beam width, and at least a second horn antenna (i.e. edge horn antenna) of the plurality of horn antennas emits beam radiation in a low-angular- resolution direction of the different directions and has a small aperture providing a broad beam width (See col. 4, lines 37-42).

Regarding claim 2, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the plurality of horn antennas [42] are mounted on a vehicle (i.e. satellite).

Regarding claim 3, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 2, wherein the horn antenna of the plurality of horn antennas [42] having the large aperture (i.e. central feed horn) emits beam radiation in one of a forward direction and a backward direction of the vehicle.

Regarding claim 4, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 2, wherein the horn antenna of the plurality of horn antennas [42] having the small aperture (i.e. edge horn antenna) emits beam radiation in one of a right-side direction [RCP] and a left-side direction [LCP] of the vehicle.

Regarding claim 5, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the antenna changeover switch [47] is a micromachine high-frequency changeover switch.

Regarding claim 6, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the plurality of horn antennas [42] are arranged symmetrically.

Regarding claim 7, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the plurality of horn antennas are arranged in a casing [70].

Regarding claim 8, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 7, wherein the casing [70] is formed of a conductive metal material.

Regarding claim 9, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the plurality of horn antennas [42] are arranged in the same plane.

Regarding claim 10, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the changeover switch [47] sequentially switches between the plurality of horn antennas [42].

Regarding claim 11, Rao et al. teaches in figures 1-15 the sector antenna apparatus according to claim 1, wherein the sector antenna apparatus [34] is arranged so as to emit beam radiation from the rear of a vehicle (i.e. satellite).

Regarding claim 15, Rao et al. teaches in figures 1-15 a vehicle-mounted transmission and reception apparatus comprising the sector antenna apparatus [34] according to claim 1.

Allowable Subject Matter

5. Claims 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 12-14 is the inclusion of the limitations of a high-frequency sub-module connected to the voltage-controlled oscillator and the antenna changeover switch; and a control-voltage terminal connected to the voltage controlled oscillator. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen
Shih-Chao Chen
Primary Examiner
Art Unit 2821

SXC
January 4, 2005